



November 6, 2009

Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, DC 20554

RE: Notice of *Ex Parte* Presentation; A National Broadband Plan for Our
Future, GN Docket No. 09-51

Dear Ms. Dortch:

In accordance with Section 1.1206 of the Commission's rules, 47 C.F.R. § 1.1206, this letter notifies the Commission that on November 5, 2009 members of the Satellite Industry Association ("SIA") met with members of the Commission's Public Safety and Homeland Security Bureau ("PSHSB") to discuss the applicability of satellite-based broadband services for the Broadband Plan, particularly with regard to public safety applications. Commission personnel in attendance included: Jennifer Manner, Deputy Chief, PSHSB; David Furth, Deputy Chief, PSHSB; William D. Lane, Chief Engineer, PSHSB; Jeffrey Scott Cohen, Senior Legal Counsel, PSHSB; Tim May, Analyst, Policy Division; Brian Hurley, Staff; and Ronnie Cho, FCC Broadband Taskforce. SIA presented, in the context of public safety application: the current and near-future technological capabilities of satellite broadband; new investments planned in the industry; application of satellite broadband in middle-mile, consumer, and mobile applications; as well as the industry's view on how broadband should be defined and the importance of cost-efficient access for remote and rural users, including those involved in national security, law enforcement, emergency preparedness and disaster relief roles.

Representatives of the Satellite Industry Association present were: Patricia Cooper, President, SIA; Diane Cornell, Vice President, Government Affairs, Inmarsat LLC; Giselle Creeser, Director, Government Regulatory Affairs, Lockheed Martin Corporation; Fletcher Brown, Vice President, Communications, DRS Technologies, Inc.; Jeffrey Freeman, Vice President, Homeland Security Programs, DRS Technologies, Inc.; Jim Corry, Vice President, Government Solutions, SkyTerra Communications, Inc.; and Clive King, Director, Government Business Development, Terrestar Networks.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Patricia A. Cooper", is written over a thin red horizontal line.

Patricia A. Cooper
President



Satellite Broadband Serving the Unserved and Underserved

October 2009



Satellite Technology Offers:

- Cost-effective solutions providing affordable, immediate and ubiquitous broadband access in hard to reach areas and for mobility;
- Broadband access for consumers, businesses, and government users alike.

Broadband Satellite Services Are:

- Used by over 1 million Americans, as of 2Q 2009
- Available *now* virtually everywhere in the U.S. - the epitome of "shovel ready";
- Cost-effective to deploy - a huge comparative advantage in rural America.

Three basic models of satellite-based broadband service in the U.S.:

1. **Consumer Satellite Broadband:** Delivery of broadband services directly to residential or commercial end-user utilizing FSS bands (Ku-, Ka-band);
2. **Middle Mile Connectivity:** Provision of FSS capacity in Ku- or Ka-band for trunk connectivity for Internet Service Provider, often with Wi-Fi or Wi-Max last-mile connectivity to end-user, or for backhaul connectivity;
3. **Mobile Broadband:** Broadband services directly to commercial or first responder end users utilizing mobile terminal in various satellite bands (L-band, S-band and Ku-band).

Cost-effective Access is Essential to National Broadband Plan

- Any national broadband plan must address the hardest-to-reach Americans.
 - An estimated 11 million Americans live in areas that are not economically feasible to serve for the foreseeable future using a terrestrially-based wired or wireless technology.
- **Satellite-based networks are uniquely able to deliver broadband cost-effectively to end-users that are otherwise unserved by broadband**
 - This Includes rural and remote areas, coastal and inland waterways, and offshore territories
 - Only satellite systems can bring broadband on-the-move access to most ships, planes, and vehicles;
- The costs for satellite platforms to reach the millions of unserved U.S. consumers are dramatically less than the cost to extend terrestrial broadband services to remote areas.
 - Unlike other technologies, satellite economics are independent of population density - costs do not increase with the remoteness of the user.
 - Satellite broadband has no "middle mile" issues - traffic is aggregated at gateway earth stations co-located with high capacity backhaul facilities.
 - By some estimates, the terrestrial costs to reach the final 1 percent of the population is nearly 40 times the cost of reaching the initial 95 percent.

Who Uses Satellite Broadband?

- Consumers/Small Home Office: Both residential and business consumers located in or traveling to unserved areas rely on satellite broadband for their communications needs, including email and data exchanges.
- Remote Critical Infrastructure Sites: Critical infrastructure providers, such as utilities and oil suppliers, need consistent and reliable access to fixed and mobile high-speed data from remote or rural locations.
- Emergency Responders: Fire, police, health and rescue professionals look to satellite broadband for their lifeline support of critical data and voice communications when outside of the reach of terrestrial fixed or wireless networks, whether because their community is not served or the terrestrial wired or wireless networks are unavailable.
- U.S. Government and Military Users: The U.S. Department of Defense relies increasingly on commercial fixed and mobile satellite applications for their advanced broadband solutions in the U.S. and around the world.
- Remote Retail Site: Many individual and national chain retail businesses count on satellite for broadband access for locations well outside the reach of terrestrial broadband services.
- Media: Satellite is the leading solution for media reporting, which increasingly relies on broadband for live audio and video streaming from any location, sometimes with little advance notice.
- Mobile Business and Consumer Functions: Mobile broadband is essential for mobile telemedicine vans, insurance adjusters, and delivery personnel operating in remote locations. . In addition, new satellite-based mobile broadband solutions are extending consumer expectations for connectivity on land vehicles, ships at sea and aircraft in flight.



Satellite Broadband Technical Capabilities

- Today's satellite broadband has evolved to offer dramatically faster speeds that enable access to the most widely-used on-line applications;
- Current-generation satellite broadband offers speeds ranging up to 1.5 Mbps for residential subscribers and up to 5 Mbps for non-residential and commercial customers;
- Next generation satellite broadband will make a quantum leap by offering speeds up to 15 Mbps for residential subscribers and up to 50 Mbps for non-residential and commercial customers;
- Satellite broadband services to handheld units offer speeds ranging up to 500 kbps with full nation-wide and world-wide coverage;
- Satellite broadband services are available in nearly 100 percent of the U.S. geographic territory, including throughout the 48 contiguous states, the District of Columbia, Alaska, Hawaii, Puerto Rico and the U.S. Virgin Islands.
 - Satellite broadband subscribers are dispersed in 92 percent of U.S. zip codes, according to the FCC's 2007 Report on High-Speed Services for Internet Access.

Residential Satellite Coverage

CONTENT TYPE	EXAMPLE APPLICATIONS	ACTUAL DOWNLOAD SPEED DEMANDS [MBPS]	
<i>Basic Download (or upload) usage</i>	<ul style="list-style-type: none"> • Basic email, E-book download • Web-browsing, job search, government website access 	0.1 - 0.3 (Speed impacts down/up time and render)	NON REAL TIME
<i>Large download (or upload) usage</i>	<ul style="list-style-type: none"> • Advanced web browsing, iTunes • Social networking, P2P, etc. • Medical records download/sharing 	0.5 - 5+ (Speed impacts down/up time and render)	REAL TIME
<i>Streamed audio</i>	<ul style="list-style-type: none"> • PBS, Rhapsody 	0.1 - 0.3	
<i>Voice over the Internet (VOIP)</i>	<ul style="list-style-type: none"> • Skype, Vonage 	0.1 - 0.3 Symm.	REAL TIME
<i>Basic interaction</i>	<ul style="list-style-type: none"> • Aleks (Online interactive education) • Pogo online games 	0.3 - 0.5 Symm.	
<i>Basic streamed video</i>	<ul style="list-style-type: none"> • Consumer generated education videos 	0.3 - 0.5	
<i>Video-conference + VOIP</i>	<ul style="list-style-type: none"> • Lower definition telemedicine 	0.6 - 1.0 Symm.	
<i>SD streamed video</i>	<ul style="list-style-type: none"> • Streamed classroom lectures • Hulu 	1 - 5	
<i>IP TV</i>	<ul style="list-style-type: none"> • IPTV 	1 - 5+ Symm.	Satellite presently covers [Up to 1.5 Mbps]
<i>2-way advanced video interaction</i>	<ul style="list-style-type: none"> • Real-time interactive experiences and gaming 	2 - 5+ Symm.	
<i>Enhanced video teleconferencing</i>	<ul style="list-style-type: none"> • Video teleconference and TeleLearning • HD Telemedicine (diagnostic imaging) 	5 - 10+ Symm.	Next generation satellite will also cover [Up to 15 Mbps]
<i>HD streamed video</i>	<ul style="list-style-type: none"> • Broadcast quality HDTV • HD streamed University lecture 	10+	

Commercial Satellite Coverage

CONTENT TYPE	EXAMPLE APPLICATIONS	Actual Download Speed Demands [MBPS]	
<i>Basic Download (or upload) usage</i>	<ul style="list-style-type: none"> • Basic email, E-book download • Web-browsing, job search, government website access 	0.1 - 0.3 (Speed impacts down/up time and render)	NON
<i>Large download (or upload) usage</i>	<ul style="list-style-type: none"> • Advanced web browsing, iTunes • Social networking, P2P, etc. • Medical records download/sharing 	0.5 - 5+ (Speed impacts down/up time and render)	REAL TIME
<i>Streamed audio</i>	<ul style="list-style-type: none"> • PBS, Rhapsody 	0.1 - 0.3	
<i>Voice over the Internet (VOIP)</i>	<ul style="list-style-type: none"> • Skype, Vonage 	0.1 - 0.3 Symm.	REAL TIME
<i>Basic interaction</i>	<ul style="list-style-type: none"> • Aleks (Online interactive education) • Pogo online games 	0.3 - 0.5 Symm.	
<i>Basic streamed video</i>	<ul style="list-style-type: none"> • Consumer generated education videos 	0.3 - 0.5	
<i>Video-conference + VOIP</i>	<ul style="list-style-type: none"> • Lower definition telemedicine 	0.6 - 1.0 Symm.	
<i>SD streamed video</i>	<ul style="list-style-type: none"> • Streamed classroom lectures • Hulu 	1 - 5	Satellite presently covers [Up to 5 Mbps]
<i>IP TV</i>	<ul style="list-style-type: none"> • IPTV 	1 - 5+ Symm.	
<i>2-way advanced video interaction</i>	<ul style="list-style-type: none"> • Real-time interactive experiences and gaming 	2 - 5+ Symm.	
<i>Enhanced video teleconferencing</i>	<ul style="list-style-type: none"> • Video teleconference and TeleLearning • HD Telemedicine (diagnostic imaging) 	5 - 10+ Symm.	Next generation satellite will also cover [Up to 50 Mbps]
<i>HD streamed video</i>	<ul style="list-style-type: none"> • Broadcast quality HDTV • HD streamed University lecture 	10+	

Speed and the Definition of Broadband

- The definition of broadband services should be flexible and technology-neutral, taking into account factors that focus on *user* needs, and optimize the *user* experience. Criteria should include the availability of commonly-used broadband applications, speed, extent of reach/coverage, mobility, reliability and cost effectiveness;
- Broadband should be defined in a functional manner that focuses on the needs of typical users - consumers seek access to the most commonly used on-line applications at an affordable rate;
- Speed is only one decisional factor that broadband consumers take into account - real world experience demonstrates that many consumers do not want to pay the price for on-line access at the highest speeds;
- To the extent broadband definition is used for eligibility or gating purposes, the FCC must be very careful not to preclude rapidly developing technologies, as this could adversely impact the deployment and success of next generation technologies.

- Satellite services have historically spurred competition from terrestrial providers;
- By introducing broadband services to rural and remote communities, satellite can stimulate demand for higher-speed broadband applications and services;
- Historically, satellite brought video competition to cable companies, resulting in the accelerated deployment of cable broadband and DSL to retain customers. The current generation of satellite broadband services can do the same for broadband Internet markets;
- Will help maintain U.S. leadership in advanced, satellite-based fixed and mobile broadband communications services;
- Fostering satellite broadband will also help maintain U.S. leadership in advanced, satellite-based fixed and mobile broadband communications services and technological development.

1. **Role of Satellite Broadband:** Recognize satellite as an integral component of the national broadband plan. Satellite should be placed on a level playing field with other technologies, keeping consistent with Congress' intent to incorporate different technologies utilizing their comparative advantages. Satellite offers important capabilities and certain advantages over other technologies.
2. **Spectrum:** Protect existing satellite spectrum from interference so that satellite broadband services can fully develop, and make more spectrum available for satellite use to meet capacity demands.
3. **Technical Flexibility:** Ensure regulatory flexibility with regard to technical requirements for satellite networks so long as harmful interference is not produced. The FCC has revised/implemented its Part 25 rules to facilitate the expansion of satellite-delivered broadband services, including recent ESV and VMES rules. The FCC should continue this trend and adopt AMSS rules based on the ESV/VMES precedent.
4. **No Satellite Auctions:** Reiterate rejection of auctions for satellite spectrum (reaffirm Orbit Act, ACT decisions). Consistent, clear regulatory intentions for satellite spectrum are critical to securing long-term financing for satellite space infrastructure.
5. **ITAR -** Endorse efforts underway to reform satellite export controls, including legislation to return to the Executive Branch authority to set policy for satellite exports.